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**Chang et al.**

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(54) **METHOD FOR PREPARING POROUS ORGANIC-INORGANIC HYBRID MATERIALS, POROUS ORGANIC-INORGANIC HYBRID MATERIALS OBTAINED BY THE METHOD AND CATALYTIC USES OF THE MATERIALS**

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(58) **Field of Classification Search** ..... 556/44, 556/61, 147; 502/167, 168, 150, 170  
See application file for complete search history.

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(57) **ABSTRACT**

The present invention relates to a method for preparing iron-containing porous organic-inorganic hybrid materials where the organic compound ligand is bonded to a central metal and has a large surface area and pores of molecular size or nano size, by irradiating microwaves instead of heat treatments such as the conventional electric heating, etc. as the heat source of the hydrothermal or solvothermal synthesis reaction, after reacting a metal or metal salt and organic compound to form crystal nuclei by a predetermined pre-treatment operation in the presence of a solvent.

In another aspect, a method of the present invention further comprises the step of purifying the obtained porous organic-inorganic hybrid materials by treating them with inorganic salt. In particular, a method of the present invention is characterized by not using a hydrofluoric acid.

**11 Claims, 8 Drawing Sheets**

